VI / R / 07R / Comp
System Programming and
Compiler Construction

Con. 9785-12. KR–8954

(3 Hours) | Total Marks : 100

N.B.: (1) Question No. 1 is **compulsory**.
(2) Attempt **any four** questions out of remaining **six**.
(3) Assume **suitable** data if **necessary**.
(4) Draw **diagrams** where **required**.

1. (a) Explain with the help of flowchart the working of two-pass assembler along with the databases used. **10**
(b) Modify the given grammar and construct a predictive parser table explaining each step : **10**
$E \rightarrow E + T \mid T$
$T \rightarrow T * V \mid V$
$V \rightarrow id$

2. (a) Explain the different error recovery techniques used in compilers. **10**
(b) Detail the different features used in macro processing. **10**

3. (a) What is the need of linkage editor in System Programming ? Explain its, working in detail. **10**
(b) Explain the working of Recursive Descent Parser and Operator Precedence Parcer with examples. **10**

4. (a) Explain Run Time storage Organisation in detail. **10**
(b) Explain the different types of Garbage collection and compaction in compilers. **10**

5. (a) Explain with flowchart the working of multipass macroprocessor and the databases used. **10**
(b) What are the different types of intermediate codes ? Explain their implementation techniques. **10**

6. (a) Distinguish between :— **10**
(i) Syntax tree and Parse trees
(ii) LL Parser and LR Parser.
(b) Explain the handling of control structures and procedures calls in code generation phase of compilers. **10**

7. Write note on :- any four **20**
(a) Dynamic loading and linking
(b) **Java** Compiler Environment
(c) **SPARC** Assembler
(d) **Code** Optimization Techniques
(e) Syntax Directed Translation.

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